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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,167	12/18/2001	Yoshikazu Tanaka	0229-0683P	9273
2292	7590	07/01/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MAKI, STEVEN D	
			ART UNIT	PAPER NUMBER
			1733	
DATE MAILED: 07/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/020,167

Applicant(s)

TANAKA, YOSHIKAZU

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004 and 04 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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- 1) Claims 4, 5 and 19 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n).
- 2) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Suzuki et al

- 4) **Claims 1 and 4-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suzuki et al (US 5400847).**

Suzuki et al discloses a ribbon (tape) 10 for a vulcanized pneumatic tire comprising a strip of rubber 12 in which a cord or a plurality of cords 11 is embedded. A belt ply piece (a tire component) of a tire is formed by winding an unvulcanized rubber tape 12 on a carcass. In figure 4, two cords are embedded in the tape. At column 4, Suzuki et al describes the cross sectional shape of the figure 4 tape as being a "flat rectangle". Suzuki et al teaches that the cross sectional shape of the tape may be rhombus, trapezoid and the like. See col.4 lines 46-51.

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As to claim 1, the claimed tape is anticipated by Suzuki et al's tape. In figure 4, the illustrated total width of the two cords is about 35% of the tape width. At col. 4 lines 49-51, Suzuki et al explicitly teaches that a trapezoidal cross sectional shape may be used instead of a flat rectangular shape. In any event: As to claim 1, it would have been obvious to one of ordinary skill in the art to provide the cord reinforced tape of Suzuki et al such that (a) "a total width of said at least one cord in the width wise direction of the tape" is in a range of "from 1/100 to 1/2 times the width of the tape" and (b) "the thickness of the tape is larger in the cord embedded portion than the other portion" since (1) Suzuki et al suggests embedding at least one cord in a uncured rubber ribbon so that it can be wound to form a tire component (piece of belt) and (2) Suzuki et al teaches that the tape may have a trapezoidal cross sectional shape instead of a flat rectangle shape (the tapered ends of such a tape having a smaller thickness than the cord embedded portion defined by the parallel flat upper and lower sides of the trapezoid).

As to claims 4 and 5, Suzuki et al teaches using the wound ribbon in a pneumatic tire.

**5) Claims 2, 7-9, 11-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Bormann et al (US 4869307).**

As to claims 2, 7, 11 and 15, it would have been obvious to one of ordinary skill in the art to provide Suzuki et al's cord reinforced ribbon with the claimed cord diameter, tape width and tape thickness since Bormann et al, which also discloses a cord reinforced tape, suggests providing such a tape with a width of 10-40 mm and a

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thickness of .4-1.2 mm. The suggestion to use 1-3 cords (for example two cords) is found in Suzuki et al. Suzuki et al's description of "a cord or a plurality of parallel cords, in this example two parallel cords" is considered to be a disclosure using a single cord, only two cords, or only three cords in the tape. In any event, it would have been obvious to use a single cord, only two cords or only three cords in the unvulcanized tape of Suzuki et al in view of Suzuki et al's teaching to use a cord or a plurality of cords such as two cords in the tape.

As to claims 8, 12 and 16, the flat rectangular shape defines a substantially constant thickness across the width of the tape.

As to claims 9, 13 and 17, note comments on claim 1.

6) **Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Europe '218 (EP 1033218).**

Claim 1 fails to define over a trapezoidally shaped tape (a tape having tapered edge portions). As to claims 1 and 6, it would have been obvious to form Suzuki et al's tape such that "the thickness of the tape is larger in the cord embedded portion than the other portion" since (1) Suzuki et al teaches that the tape may have various cross sectional shapes such as flat rectangle, trapezoidal, etc. and (2) Europe '218, also directed to a rubber tape for a tire component of a tire, suggests forming the tape such that it has a thick central portion 9A and thin edge portions 9B to decrease trapped air and improve durability (see figure 3). When applying the teachings of Europe '218 to Suzuki et al, the resulting tape has a thick central portion 9A having 1, 2 or 3 embedded

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cords (cord embedded portion) and thin edge portions 9B (other portions) wherein the thickness of the cord embedded portion 9A is larger than the other portions 9B.

7) **Claims 2, 9, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Bormann et al as applied above and further in view of Europe '218.**

As to claims 2, 9, 13 and 17, the subject matter therein would have been obvious for the same reasons given in paragraph 6 of this office action. Claim 2 is included in this rejection since it requires the larger thickness limitation of claim 1.

Chrobak

8) **Claims 1 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Chrobak (US 3607497).**

Chrobak discloses a ribbon (tape) of uncured rubber comprising "at least one cord" (col. 4 lines 9-10). In figure 3, the uncured rubber strip has three cords between tapered edge portions. Each of three cords is illustrated as being partially embedded in the rubber. A total illustrated width of the three cords is about 9% of the width of the tape.

As to claim 1, the claimed tape is anticipated by the strip disclosed by Chrobak. As to the number of cords, Chrobak's teaching to use "at least one cord" such as three cords as shown in figure 3, is considered to constitute a disclosure of using 1-3 cords, a single cord, only two cords or only three cords. As to "the thickness of the tape being larger than the cord embedded portion than the other portion, the claimed other portions read on the tapered edge portions of the ribbon.

As to claims 4 and 5, Chrobak teaches that the ribbon is used to form the tread (a tire component) of a pneumatic tire.

**9) Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chrobak in view of Midorikawa et al (US 5591279).**

As to claim 3, it would have been obvious to one of ordinary skill in the art to incorporate short fibers in the uncured rubber ribbon of Chrobak such that the fibers are oriented in the longitudinal direction of the ribbon (tape) since (a) Chrobak teaches reinforcing the uncured rubber (with at least one longitudinally extending cord) and using the reinforced rubber ribbon to form a tread portion and (b) Midorikawa et al suggests reinforcing a tread portion by incorporating circumferentially oriented short fibers in a tread portion so that block edge effect and rubber adhesive effect can be simultaneously achieved to the maximum extent.

**10) Claims 7, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrobak in view of Iida et al (US 6412532).**

Claims 7, 11 and 15 fail to require any specified cross sectional shape. As to claims 7, 11 and 15, it would have been obvious to provide the cord reinforced ribbon (tape) of Chrobak such that the cord diameter is 0.3-1.5 mm, the tape width is 10-30 mm and the tape thickness other than at the cord position is 0.5-1.5 mm (claim 2) since (1) Chrobak teaches using at least one cord such as three cords to form a reinforced uncured rubber ribbon and winding the cord reinforced ribbon in order to form a tread portion (tread or undertread) having improved mechanical strength and stability and (2) Iida et al suggests forming a tread portion by strip winding wherein the strip has a width

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of 5-30 mm and a thickness of .5-3 mm and optionally (3) cords having a diameter within the range of 0.3 -1.5 mm are taken as well known / conventional reinforcing cords for a tire component in the tire art.

**11) Claims 10, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrobak in view of Iida et al as applied above and further in view of Midorikawa et al.**

As to claims 10, 14 and 18, the subject matter therein would have been obvious for the same reasons given in paragraph 9 of this office action.

**12) Claims 1-2, 4-9, 11-13, 15-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrobak in view of Iida et al (US 6412532) and at least one of Suzuki et al and Europe '218.**

Chrobak is considered to anticipate claim 1. In any event: As to claims 1, 2, 7, 11 and 15, it would have been obvious to provide the cord reinforced ribbon (tape) of Chrobak such that "a total width of said at least one cord in the width wise direction of the tape" is in a range of "from 1/100 to 1/2 times the width of the tape (claim 1) / the cord diameter is 0.3-1.5 mm, the tape width is 10-30 mm and the tape thickness other than at the cord position is 0.5-1.5 mm (claim 2) since (1) Chrobak teaches using at least one cord such as three cords to form a reinforced uncured rubber ribbon and winding the cord reinforced ribbon in order to form a tread portion (tread or undertread) having improved mechanical strength and stability and (2) Iida et al suggests forming a tread portion by strip winding wherein the strip has a width of 5-30 mm and a thickness of .5-3 mm and optionally (c) cords having a diameter within the range of 0.3 -1.5 mm are

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taken as well known / conventional reinforcing cords for a tire component in the tire art. The limitation of the cord being "embedded" along the length of the tape would have been obvious in view of (a) Chrobak's teaching to form a cord reinforced strip and optionally (b) Suzuki et al's suggestion to completely embed cords in a uncured rubber strip to be wound to form a tire component.

As to "the thickness of the tape being larger in the cord embedded portion than the other portion" (claims 1, 6, 9, 13 and 17), it would have been obvious to form Chrobak's tape such that "the thickness of the tape is larger in the cord embedded portion than the other portion" since Europe '218, also directed to a rubber tape for a tire component of a tire, suggests forming the tape such that it has a thick central portion 9A and thin edge portions 9B to decrease trapped air and improve durability (see figure 3). When applying the teachings of Europe '218 to Chrobak, the resulting tape has a thick central portion 9A having 1, 2 or 3 embedded cords (cord embedded portion) and thin edge portions 9B (other portions) wherein the thickness of the cord embedded portion 9A is larger than the other portions 9B.

As to "the thickness of the tape is substantially constant across the width of the tape" (claims 8, 12 and 16), it would have been obvious to form Chrobak's cord reinforced tape such that "the thickness of the tape is substantially constant across the width of the tape" since Suzuki et al, also directed to a cord reinforced rubber tape for a tire component of a tire, teaches that the cross sectional shape of such a tape may be "flat rectangular" (col. 4 lines 46-51).

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As to claims 4 and 5, Chrobak teaches that the ribbon is used to form the tread (a tire component) of a pneumatic tire.

As to claim 19, it would have been obvious to wind the tape to form a sidewall since Europe '218 teaches winding a tape to form a tread or sidewall (see paragraphs 23 and 24).

**13) Claims 3, 10, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrobak in view of Iida et al (US 6412532) and at least one of Suzuki et al and Europe '218 as applied above and further in view of Midorikawa et al.**

As to claims 3, 10, 14 and 18, the subject matter therein would have been obvious for the same reasons given in paragraph 9 of this office action.

#### Remarks

14) Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Upon reconsideration and in view of applicant's arguments in the response filed 4-12-04, the restriction requirement has been withdrawn.

Applicant's arguments filed 12-3-04 have been fully considered but they are not persuasive.

With respect to applicant's argument that Suzuki et al fails to suggest a tape having a larger thickness, see Suzuki et al's disclosure at col. 4 lines 46-51 or the application of Europe '218 (newly cited).

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With respect to applicant's argument that Suzuki et al fails to disclose specific cord diameter and tape dimensions, Suzuki et al shows relative cord diameter and tape dimensions in figure 4.

With respect to applicant's argument that Chrobak fails to disclose a tape having a larger thickness, see figures of Chrobak which show a larger thickness middle portion or the application of Europe '218 (newly cited).

With respect to applicant's argument that Chrobak fails to disclose specific cord diameter and tape dimensions, Chrobak shows relative cord diameter and tape dimensions in the figures.

With respect to applicant's argument that Chrobak fails to disclose use of the tape in a sidewall, note the application of newly cited Europe '218. Hanson (Re 25349) is cited of interest as being similar to Europe '218 in that it discloses winding a rubber tape for a tread and sidewall.

Applicant's argument that Borman fails to disclose one, two or three cords, is not persuasive in view of Suzuki et al's teaching to use at least one cord such as two cords.

Applicant's argument that Iida fails to disclose one, two or three cords is not persuasive in view of Chrobak's teaching to use at least one cord such as three cords.

With respect to applicant's arguments regarding Midorikawa et al, Midorikawa et al motivates one of ordinary skill in the art to include short fibers in Chrobaks' cord reinforced tape to improve edge and adhesive effect for the tread.

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Applicant's arguments regarding inconsistent features are not persuasive since Suzuki et al, Bormann et al, Chrobak and Ida et al share the common subject matter of a tape which is wound in order to form a tire component.

15) No claim is allowed.

16) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

17) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

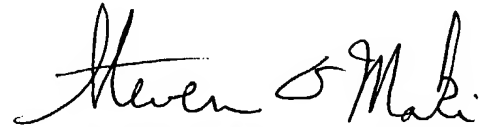
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
June 28, 2004

  
STEVEN D. MAKI  
PRIMARY EXAMINER  
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6-28-04